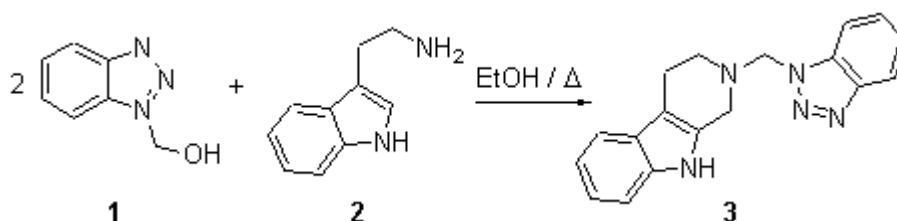


N-Benzotriazol-1-yl-methyl-1,2,3,4-tetrahydro-b-carboline**Ann Lam and Naseem Peerzada**

Faculty of Science, Information Technology and Education, Northern Territory University, Darwin, N.T. 0909, Australia - ph: 0061-8-8946 6360, fax: 0061-8-8946 6847, e-mails (Ann Lam) a_lam@site.ntu.edu.au, (Naseem Peerzada) naseem.peerzada@ntu.edu.au.

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Katritzky's well-established chemistry of benzotriazole [1] was applied to the synthesis of 1,2,3,4-tetrahydro-b-carboline, which have been traditionally prepared by Pictet-Spengler condensation², Fischer cyclisation and other methods³. This facile reaction of 1-hydroxymethylbenzotriazole **1** with tryptamine **2** yielded very high quantities of crystalline N-benzotriazol-1-yl-methyl-1,2,3,4-tetrahydro-b-carboline **3**. Tryptamine **2** (1.02g, 6.34mmol) and 1-hydroxymethylbenzotriazole **1** (1.94g, 12.99mmol) were dissolved in ethanol (50mL) and refluxed for two hours. A crystalline solid dropped out of the solution while refluxing. The mixture was chilled and vacuum filtered to obtain a pale tan crystalline compound (1.70g, 89%), then recrystallised from ethanol to give N-benzotriazol-1-yl-methyl-1,2,3,4-tetrahydro-b-carboline **3** as a pale tan powder (1.581g, 82%)..

M.p. 200-202 °C. (EtOH, uncorrected).

¹H-NMR (200 MHz; DMSO-d₆; Me₄Si): 10.76 (1H, s, NH), 8.13-8.07, 7.66-7.58, 7.48-7.44, 7.38-7.34, 7.30-7.26, 7.05-6.94 (8H, m, Ar), 5.87 (1H, s, NCH₂Bt), 3.87 (2H, s, InCH₂N), 3.02 (2H, s, CCH₂N), 2.74 (2H, s, InCH₂C)

¹³C-NMR (50 MHz; DMSO-d₆): 21.3 (InCH₂C), 46.7 (InCH₂N), 48.3 (InCH₂CH₂N), 68.2 (NCH₂Bt), 106.2, 117.6, 118.5, 120.7, 126.8, 136.2 (Ar), 111.1(C=CN), 111.4, 119.3, 124.2, 127.7, 132.2, 145.3 (Ar), 134.2 (C=CN).

Analysis cal. for C₁₈H₁₇N₅ (303.36): C 71.27, H 5.65, 23.09; Found: C 70.99, H 5.64; N, 22.83.

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Sample Availability: Available from the authors and MDPI.

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